

California Air Resources Board (ARB)-CAPCOA
Suggested Control Measure for Architectural Coatings

RULE ____ ARCHITECTURAL COATINGS

(a) 1. APPLICABILITY ~~(e) EXEMPTIONS~~

1.1 Except as provided in subsection 1.2, the provisions of ~~T~~this rule is are applicable to any person who supplies, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures any architectural coating for use within the District.

1.2 The ~~requirements~~ provisions of this rule do not apply to: any architectural coating described in subsections 1.2.1 through 1.2.3:

~~(1)~~ 1.2.1 ~~Architectural A coatings that is manufactured for use sale or distribution to architectural coating markets outside of the District; or for shipment to other manufacturers for repackaging such a coating must not be sold or distributed within the District as an architectural coating.~~

~~(3)~~ 1.2.2 ~~Architectural A coatings that is sold in a non-refillable aerosol containers having capacities of one liter or less.~~

~~(2)~~ 1.2.3 ~~Architectural A coatings that is supplied in and applied from sold in a containers having capacities with a volume of one liter or less, which were offered in containers of such capacities prior to (the date of adoption of this rule).~~

~~(4) Emulsion type bituminous pavement sealers.~~

~~(b)~~ 2. DEFINITIONS

2.1 Adhesive: Any chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

~~(1)~~ 2.2 Appurtenances: Any Aaccessories to an architectural stationary structure coated at the site of installation, whether installed or detached, including, but not limited to: bathroom and kitchen fixtures; cabinets; concrete forms; doors; elevators; fences; hand railings; heating and equipment, air conditioning equipment, and other fixed mechanical equipment or large fixed stationary tools; lamp-posts; partitions; pipes and

pipng systems; rain gutters and downspouts; stairways, fixed ladders, catwalks, and fire escapes; and window screens.

- (2) 2.3 Architectural Coatings: A Coatings recommended for application to stationary structures and their appurtenances at the site of installation, to portable buildings at the site of installation, mobile homes to pavements, or to curbs. Coatings applied in shop applications or to non-stationary structures such as airplanes, ships, boats, railcars, and automobiles and adhesives are not considered architectural coatings for the purposes of this rule.
- (3) ~~Below Ground Wood Preservatives: Coatings formulated to protect below ground wood from decay or insect attack and which contain a wood preservative chemical registered by the California Department of Food and Agriculture.~~
- (4) 2.4 Bituminous Coatings: A coating formulated and recommended for roofing, pavement sealing, or waterproofing that incorporates bitumens. Bitumens are Bblack or brownish coating materials including, but not limited to, asphalt, tar, pitch, and asphaltite that which are soluble in carbon disulfide, which consist mainly of hydrocarbons, and which are obtained from natural deposits or as residues from the distillation of crude ois petroleum or of low grades of coal.
- (5) 2.5 Bond Breakers: A Coatings formulated and recommended for application between layers of concrete to prevent the a freshly poured top layer of concrete from bonding to the layer over which it is poured.
- (6) 2.6 Clear Wood ~~Finishes~~ Coatings: Clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.
- 2.7 Coating: A material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealers, stains, and temporary coatings.
- 2.8 Colorant: A concentrated pigment dispersion in water, solvent, and/or binder that is added to an architectural coating in a paint store or at the site of application to produce the desired color.
- (7) 2.9 Concrete Curing Compounds: A Coatings formulated and recommended for application to freshly poured concrete to retard the evaporation of water.
- (8) 2.10 Dry Fog Coatings ~~(Mill White Coatings)~~: A Coatings formulated and recommended only for spray application such that overspray droplets dry before subsequent contact with other incidental surfaces in the vicinity of the surface coating activity.

Draft 5/19/99

- (9) 2.11 Exempt Solvents: ~~A~~ Compounds identified as exempt under the definition of Volatile Organic Compounds (VOC), §subsection (b)-(38) 2.43.
- (10) 2.12 Fire-Retardant Coatings: ~~A~~ Coatings which formulated and recommended to have a flame spread index of less than 25 when tested in accordance with American Society for Testing and Materials (ASTM) Designation E-84-87, "Standard Test Method for Surface Burning Characteristics of Building Material," after application to Douglas fir according to the manufacturer's recommendations (incorporated by reference--see section 5).
- 2.13 Flat Coating: A coating that is not defined under any other definition in this rule and that registers gloss less than 15 on an 85-degree meter or less than 5 on a 60-degree meter according to ASTM Designation D 523-89, Standard Test Method for Specular Gloss (incorporated by reference--see section 5.).
- 2.14 Floor Coating: An opaque coating that is formulated and recommended for application to flooring including, but not limited to, decks, porches, and steps, for the purposes of abrasion resistance.
- (11) 2.15 Form-Release Compounds: ~~A~~ Coatings formulated and recommended for application to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.
- (12) 2.16 Graphic Arts Coatings or (Sign Paints): ~~A~~ Coatings formulated and recommended for and hand-applied by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.
- (13) 2.17 High-Temperature ~~Industrial Maintenance~~ Coatings: A high performance Industrial Maintenance Coatings formulated, recommended, and used for and application to substrates exposed continuously or intermittently to temperatures above 204°C (400°F). degrees Fahrenheit
- (14) ~~Industrial Maintenance Anti-Graffiti Coatings: Two component clear industrial maintenance coatings formulated for and applied to exterior walls and murals to resist repeated scrubbing and exposure to harsh solvents.~~
- (15) 2.18 Industrial Maintenance Coatings: A High performance architectural coatings, including primers, sealers, undercoaters, intermediate coats, and topcoats, formulated and recommended for and application to substrates exposed to one or more of the following extreme environmental conditions listed in subsections 2.18.1 through 2.18.5 in an industrial, commercial, or institutional situations setting that are exposed to one or more of the following extreme environmental conditions:
- (i) 2.18.1 Immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

- (ii) 2.18.2 ~~a~~Acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, or chemical mixtures; or solutions;
- (iii) 2.18.3 ~~r~~Repeated exposure to temperatures ~~in excess of~~ above 121°C (250°F);
- (iv) 2.18.4 ~~r~~Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleansers, or scouring agents; or
- (v) 2.18.5 ~~e~~Exterior exposure of metal structures and structural components.
- 2.18.6 Industrial Maintenance Coatings are not for residential use or for use in areas of industrial, commercial, or institutional facilities not exposed to such extreme environmental conditions, such as office space and meeting rooms.
- (16) 2.19 Lacquers: A ~~C~~clear or opaque wood finishes coating, including clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction, including clear lacquer sanding sealers and to provide a solid, protective film. Lacquer stains are considered stains, not lacquers.
- 2.20 Low Solids Coating: A coating containing 0.12 kilogram or less of solids per liter (1 pound or less of solids per gallon) of coating material and for which at least half of the volatile component is water.
- (17) 2.21 Magnesite Cement Coatings: A ~~C~~coatings formulated and recommended for and application to magnesite cement decking to protect the magnesite cement substrate from erosion by water.
- (18) 2.22 Mastic Texture Coatings: A ~~C~~coatings formulated and recommended to cover holes and minor cracks and to conceal surface irregularities, and is applied in a single coat thickness of at least 10 mils (0.010 inch) dry film thickness (dry, single coat).
- (19) 2.23 Metallic Pigmented Coatings: A ~~C~~coatings containing at least 0.4 48 grams pounds of elemental metallic pigment per gallon liter of coating as applied (0.4 pounds per gallon), excluding zinc.
- (20) 2.24 Multi-Colored Coatings: A ~~C~~coatings which that is packaged in a single container and exhibits more than one color when applied and which are packaged in a single container and applied in a single coat.
- 2.25 Nonflat Coating: A coating that is not defined under any other definition in this rule and that registers a gloss of 15 or greater on an 85-degree meter or 5 or greater on a 60-degree meter according to ASTM Designation D 523-89, Standard Test Method for Specular Gloss (incorporated by reference--see section 5.).
- (21) ~~Opaque Stains: All stains that are not classified as semi-transparent stains.~~

Draft 5/19/99

- (22) ~~Opaque Wood Preservatives: All wood preservatives not classified as clear or semi-transparent wood preservatives or as below ground wood preservatives.~~
- (23) 2.26 Pre-treatment Wash Primers: ~~A Coatings primer which that~~ contains a minimum of ~~1/2~~ 0.5% percent acid, by weight, that is formulated and recommended for application directly to bare metal surfaces to provide necessary surface etching corrosion resistance and to promote adhesion of subsequent topcoats.
- (24) 2.27 Primers: ~~A Coatings~~ formulated and recommended for application to a substrates to provide a firm bond between the substrate and subsequent coats.
- 2.28 Quick-Dry Enamel: A nonflat coating that has the following characteristics:
- 2.28.1 Is capable of being applied directly from the container under normal conditions with ambient temperatures between 16 and 27°C (60 and 80°F);
- 2.28.2 When tested in accordance with ASTM Designation D 1640-83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature (incorporated by reference--see section 5.), sets to touch in 2 hours or less, is tack free in 4 hours or less, and dries hard in 8 hours or less by the mechanical test method; and
- 2.28.3 Has a dried film gloss of 70 or above on a 60 degree meter.
- (25) 2.29 Residential Use: Use in areas where people reside or lodge including, but not limited to, single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.
- (25) 2.30 Roof Coatings: ~~A Coatings~~ formulated and recommended for application to exterior roofs ~~and~~ for the primary purpose of preventing penetration of the substrate by water; or reflecting heat and reflecting ultraviolet radiation. Metallic pigmented roof coatings which qualify as metallic pigmented coatings shall not be considered to be in this category, but shall be considered to be in the metallic pigmented coatings category.
- 2.31 Rust Preventative Coating: A coating formulated and recommended for use in preventing the corrosion of ferrous metal surfaces in residential situations.
- (27) 2.32 Sanding Sealers: ~~A Clear wood coatings formulated and recommended for and~~ application to bare wood ~~for sanding and to seal the wood for subsequent application of varnish and to provide a coat that can be sanded to create a smooth surface. A sanding sealer that also meets the definition of a lacquer is not included in this category, but is included in the lacquer category. To be considered a sanding sealer a coating must be clearly labelled as such.~~
- (28) 2.33 Sealers: ~~A Coatings~~ formulated and recommended for ~~and~~ application to a substrate for one or more of the following purposes: to prevent subsequent coatings from being absorbed by the substrate; or to prevent harm to subsequent coatings by materials in

the substrate; to block stains, odors, or efflorescence; to seal fire, smoke, or water damage; or to condition chalky surfaces.

- (29) ~~Semi-Transparent Stains: Coatings formulated to change the color of a surface but not conceal the surface.~~
- (30) ~~Semi-Transparent Wood Preservatives: Wood preservative stains formulated and used to protect exposed wood from decay or insect attack by the addition of a wood preservative chemical registered by the California Department of Food and Agriculture, which change the color of a surface but do not conceal the surface, including clear wood preservatives.~~
- (31) 2.34 Shellacs: A Clear or pigmented opaque coatings formulated solely with natural resins (except nitrocellulose resins) soluble in alcohol (including, but not limited to, the resinous secretions of the lac beetle, (Lacifer lacca), thinned with alcohol, and formulated to Shellacs dry by evaporation without a chemical reaction and provide a quick-drying, solid protective film that may be used for blocking stains.
- (32) 2.35 Solicit: To require for use or to specify, by written or oral contract.
- 2.36 Shop Application: A coating is applied to a product or a component of a product in a factory or shop as part of a manufacturing, production, or repairing process (e.g., original equipment manufacturing coatings).
- 2.37 Stain: A coating that produces a dry film with minimal coloring. This includes lacquer stains.
- (33) 2.38 Swimming Pool Coatings: A Coatings formulated and recommended used to coat the interior of swimming pools and to resist swimming pool chemicals.
- (34) ~~Swimming Pool Repair Coatings: Chlorinated rubber based coatings used for the repair and maintenance of swimming pools over existing chlorinated rubber based coatings.~~
- 2.39 Tint Base: A coating to which colorant is added in a paint store or at the site of application to produce a desired color.
- (35) 2.40 Traffic Marking Coatings: A Coatings formulated and recommended for and applied to public marking and striping streets, highways, and or other traffic surfaces including, but not limited to, curbs, berms, driveways, and parking lots, sidewalks, and airport runways.
- (36) 2.41 Undercoaters: A Coatings formulated and recommended applied to substrates to provide a smooth surface for subsequent coatings.
- (37) 2.42 Varnishes: A Clear wood finishes formulated with various resins to dry by chemical reaction on exposure to air or semi-transparent coating, excluding lacquers and shellacs, formulated and recommended to provide a durable, solid, protective film. Varnishes may

contain small amounts of pigment to color a surface, or to control the final sheen or gloss of the finish.

- (38) 2.43 Volatile Organic Compounds: ~~Any~~ ~~Compounds of carbon, excluding which may be emitted to the atmosphere during the application of and or subsequent drying or curing of coatings subject to this rule, except methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions.~~

2.43.1 This includes any such organic compound other than the following, which have been determined to have negligible photochemical reactivity:

methane;

ethane;

methylene chloride; (dichloromethane);

1,1,1-trichloroethane (methyl chloroform);

~~trichlorotrifluoroethane~~ 1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113);

trichlorofluoromethane (CFC-11);

dichlorodifluoromethane (CFC-12);

chlorodifluoromethane (HCFC-22);

trifluoromethane (HFC-23);

~~dichlorotetrafluoroethane~~ 1,2-dichloro-1,1,2,2-tetrafluoroethane (CFC-114); and

chloropentafluoroethane (CFC-115);

1,1,1-trifluoro-2,2-dichloroethane (HCFC-123);

1,1,1,2-tetrafluoroethane (HFC-134a);

1,1-dichloro-1-fluoroethane (HCFC-141b);

1-chloro-1,1-difluoroethane (HCFC-142b);

2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);

pentafluoroethane (HFC-125);

1,1,2,2-tetrafluoroethane (HFC-134);

1,1,1-trifluoroethane (HFC-143a);

1,1-difluoroethane (HFC-152a);

parachlorobenzotrifluoride (PCBTF);

cyclic, branched, or linear completely methylated siloxanes;

acetone;

perchloroethylene (tetrachloroethylene);

3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca);

1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb);

1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee);

difluoromethane (HFC-32);

ethylfluoride (HFC-161);

1,1,1,3,3,3-hexafluoropropane (HFC-236fa);

1,1,2,2,3-pentafluoropropane (HFC-245ca);

1,1,2,3,3-pentafluoropropane (HFC-245ea);

1,1,1,2,3-pentafluoropropane (HFC-245eb);

1,1,1,3,3-pentafluoropropane (HFC-245fa);

1,1,1,2,3,3-hexafluoropropane (HFC-236ea);
1,1,1,3,3-pentafluorobutane (HFC-365mfc);
chlorofluoromethane (HCFC-31);
1-chloro-1-fluoroethane (HCFC-151a);
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a);
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C₄F₉OCH₃);
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane
((CF₃)₂CFCE₂OCH₃);
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C₄F₉OC₂H₅);
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane
((CF₃)₂CFCE₂OC₂H₅);
methyl acetate

and perfluorocarbon compounds which fall into these classes:

- (i) Cyclic, branched, or linear, completely fluorinated alkanes;
- (ii) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
- (iii) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
- (iv) Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

2.44 VOC Content: The weight of VOC per volume of coating, calculated according to the procedures in subsection 5.1.

(39) 2.45 Waterproofing Wood Sealers: A Colorless coatings which are formulated and recommended for application for the sole purpose of protecting to a porous wood substrates for the primary purpose of by preventing the penetration of water. and which do not alter surface appearance or texture

2.46 Waterproofing Concrete/Masonry Sealer: A clear or pigmented film forming compound that is formulated for sealing concrete and masonry to provide resistance against water, alkalis, acids, ultraviolet light, and staining.

2.47 Wood Preservative: A coating formulated and recommended to protect wood from decay or insect attack, and which contains a wood preservative chemical that is registered with the United States Environmental Protection Agency (U.S. EPA) under the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code (U.S.C.) Section 136, et seq.) and that is registered with the California Department of Pesticide Regulation.

(e) 3. STANDARDS

(1) — Except as provided in Subsections (e) (2), (e) (3), and (e) (4), no person shall, within the District, supply, offer for sale, sell, apply, or solicit the application of any architectural coating which, at the time of sale or manufacture, contains more than 250 grams of volatile organic compounds per liter of coating (less water and exempt solvents, and

excluding any colorant added to tint bases), or manufacture, blend, or repackage such a coating for use within the District.

- (2) 3.1 **VOC Content Limits:** Except as provided in ~~S~~subsections (e)(3) 3.2 and (e)(4) 3.3, no person shall, within the District, supply, offer for sale, sell, apply, or solicit the application of any architectural coating listed in ~~the Table of Standards 1~~ which contains ~~volatile organic compounds~~ VOC (less water and exempt solvents, and excluding any colorant added to tint bases) in excess of the corresponding limit specified in the table, after the corresponding date specified, or manufacture, blend, or repackage such a coating for use within the ~~d~~District.

- (3) 3.2 **Most Restrictive VOC Limit:** If anywhere on the container of any architectural coating listed ~~on the Table of Standards, or on any sticker or label~~ label or sticker affixed ~~thereto to the container,~~ or in any sales, ~~or~~ advertising, or technical literature supplied by a manufacturer or anyone acting on their behalf, any representation is made that indicates that the coating may be used as, or is suitable for use as a meets the definition of or is recommended for use for more than one of the coating categories listed for which a lower VOC standard is specified in the Table 1 or in Subsection (e) (1), then the lowest most restrictive VOC standard content limit shall apply. This ~~requirement~~ provision does not apply to ~~the representation of the following coatings in the manner specified~~ subsections 3.2.1 through 3.2.6:

(i) ~~High Temperature Industrial Maintenance Coatings, which may be represented as metallic pigmented coatings for use consistent with the definition of high temperature industrial maintenance coatings;~~

(ii) 3.2.1 ~~Lacquer S~~sanding ~~S~~sealers, ~~which may be recommended for use as sanding sealers in conjunction with clear lacquer topeoats; are subject only to the VOC content limit in Table 1 for lacquers.~~

(iii) 3.2.2 ~~Metallic P~~igmented ~~C~~oatings, ~~which may be that meet the definition of or are recommended for use as primers, sealers, undercoaters, roof coatings, or industrial maintenance coatings, or primers are subject only to the VOC content limit in Table 1 for metallic pigmented coatings; and~~

(iv) 3.2.3 ~~Shellacs that meet the definition of or are recommended for use as any other architectural coating are subject only to the VOC content limit in Table 1 for shellacs.~~

3.2.4 ~~Pre-treatment wash primers that meet the definition of or are recommended for use as primers or that meet the definition for industrial maintenance coatings are subject only to the VOC content limit in Table 1 for pre-treatment wash primers.~~

3.2.5 ~~Industrial maintenance coatings that meet the definition of or are recommended for use as primers, sealers, undercoaters, or mastic texture~~

coatings are subject only to the VOC content limit in Table 1 for industrial maintenance coatings.

3.2.6 High temperature coatings that meet the definition of or are recommended for use as industrial maintenance coatings are subject only to the VOC content limit in Table 1 for high temperature coatings.

~~(4)~~ 3.3 **Sell-Through Provision:** Sale of a coating manufactured prior to the effective date of the corresponding standard in the Table of Standards 1, and not complying with that standard, shall not constitute a violation of Ssubsection ~~(e) (2)~~ 3.1 until three years after the effective date of the standard, nor shall application of such a coating.

~~(5)~~ 3.4 **Painting Practices:** All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, maintained or repaired.

3.5 **Thinning:** Any person who applies or solicits the application of any architectural coating within the District shall follow the manufacturer's recommendation regarding thinning of the coating under normal environmental and application conditions as described in subsection 4.1.2. This recommendation shall not apply to the thinning of architectural coatings with water. No person who applies or solicits the application of any architectural coating shall apply a coating that is thinned to exceed the applicable VOC limit in Table 1.

3.6 **Industrial Maintenance Coatings:** Any person who applies or solicits the application of any architectural coating within the District shall follow the manufacturer's recommendation regarding industrial maintenance coatings as described in subsection 4.1.5. No person who applies or solicits the application of any architectural coating shall apply an industrial maintenance coating in or on a residence as defined in subsection 2.29 or in or on areas of certain institutional facilities as defined in subsection 2.18.6.

3.7 **Coatings Not Listed in Table 1:** For any coating not listed in Table 1 or defined in section 2., the VOC limit shall be determined by classifying the undefined coating as a flat coating or a nonflat coating, based on its gloss, as defined in subsections 2.13 and 2.25, and the corresponding flat or nonflat VOC limit shall apply.

~~(d)~~ **4. ADMINISTRATIVE REQUIREMENTS CONTAINER LABELING REQUIREMENTS**

4.1 Each manufacturer of any architectural coating subject to the provisions of this subsection shall provide the information listed in subsections 4.1.1 through 4.1.5 on the coating container in which the coating is sold or distributed.

- (1) 4.1.1 **Date Code:** ~~Each container of any coating subject to this rule shall display t~~The date on which the contents were the coating was manufactured, or a date code indicating representing the date of manufacture, shall be indicated on the label, lid, or bottom of the container. Each manufacturer of such coatings shall file with the Air Pollution Control Officer and the Executive Officer of the California Air Resources Board (ARB), an explanation of each code.
- (2) 4.1.2 **Thinning Recommendations:** ~~Each container of any coating subject to this rule shall display a~~ A statement of the manufacturer's recommendation regarding thinning of the coating shall be indicated on the label or lid of the container. This recommendation shall requirement does not apply to the thinning of architectural coatings with water. If thinning of the coating prior to use is not necessary, Tthe recommendation shall must specify that the coating is to be employed applied without thinning or diluting under normal environmental and application conditions unless any thinning recommended on the label for normal environmental and application conditions does not cause a coating to exceed its applicable standard.
- (3) 4.1.3 **VOC Content:** Each container of any coating subject to this rule ~~and manufactured after (one year from the date of adoption)~~ shall display the ~~maximum~~ VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer. VOC content shall be displayed as in grams of VOC per liter of coating (less water and exempt solvent, and excluding any colorant added to tint bases). VOC content displayed ~~may~~ shall be calculated using product formulation data, or ~~may shall~~ be determined using the test methods ~~in Ssubsection (f)-(4) 5.2.~~ The equations in subsection 5.1 shall be used to calculate VOC content.
- 4.1.4 **Coating Category Designation:** Each container of any coating subject to this rule shall display on the label or lid of the container the applicable coating category with which the coating is required to comply, as listed in Table 1.
- (4) 4.1.5 **Industrial Maintenance Coatings:** ~~Beginning (one year from the date of adoption), the labels of all~~ In addition to the information specified in subsection 4.1, each manufacturer of any industrial maintenance coatings subject to the provisions of this subsection shall include the statement "Not for Residential Use," or "Not for Residential Use in California," prominently displayed on the label or lid of the container in which the coating is sold or distributed one or more of the descriptions listed in subsections 4.1.5.1 through 4.1.5.4.
- 4.1.5.1 "For industrial use only."
- 4.1.5.2 "For professional use only."

- 4.1.5.3 “Not for residential use” or “Not intended for residential use.”
- 4.1.5.4 “This coating is intended for use under the following condition(s):” (Include each condition in subsections 4.1.5.4.1 through 4.1.5.4.5 that applies to the coating.)
 - 4.1.5.4.1 Immersion in water, wastewater, or chemical solutions (aqueous and nonaqueous solutions), or chronic exposure of interior surfaces to moisture condensation;
 - 4.1.5.4.2 Acute or chronic exposure to corrosive, caustic, or acidic agents, or to chemicals, chemical fumes, or chemical mixtures or solutions;
 - 4.1.5.4.3 Repeated exposure to temperatures above 121°C (250°F);
 - 4.1.5.4.4 Repeated (frequent) heavy abrasion, including mechanical wear and repeated (frequent) scrubbing with industrial solvents, cleaners, or scouring agents; or
 - 4.1.5.4.5 Exterior exposure of metal structures and structural components.

(+) 5. COMPLIANCE PROVISIONS AND TEST METHODS

5.1 Calculation of VOC Content: For the purpose of determining compliance with the VOC content limits in Table 1, the VOC content of a coating shall be determined by using the procedures described in subsection 5.1.1 or 5.1.2, as appropriate. The VOC content of a tint base shall be determined without colorant that is added after the tint base is manufactured.

5.1.1 With the exception of low solids coatings, determine the VOC content in grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, excluding the volume of any water and exempt compounds. Calculate the VOC content using equation 1 as follows:

$$\text{VOC Content} = \frac{(W_s - W_w - W_{ec})}{(V_m - V_w - V_{ec})} \quad (1)$$

Where:

<u>VOC content</u>	<u>≡</u>	<u>grams of VOC per liter of coating</u>
<u>W_s</u>	<u>≡</u>	<u>weight of volatiles, in grams</u>
<u>W_w</u>	<u>≡</u>	<u>weight of water, in grams</u>
<u>W_{ec}</u>	<u>≡</u>	<u>weight of exempt compounds, in grams</u>

$\underline{V_m}$	\equiv	<u>volume of coating, in liters</u>
$\underline{V_w}$	\equiv	<u>volume of water, in liters</u>
$\underline{V_{ec}}$	\equiv	<u>volume of exempt compounds, in liters</u>

5.1.2 For low solids coatings, determine the VOC content in units of grams of VOC per liter of coating thinned to the manufacturer's maximum recommendation, including the volume of any water and exempt compounds. Calculate the VOC content using equation 2 as follows:

$$\text{VOC Content}_{\text{ls}} = \frac{(W_s - W_w - W_{ec})}{(V_m)} \quad (2)$$

Where:

$\underline{\text{VOC content}}_{\text{ls}}$	\equiv	<u>the VOC content of a low solids coating in grams of VOC per liter of coating</u>
$\underline{W_s}$	\equiv	<u>weight of volatiles, in grams</u>
$\underline{W_w}$	\equiv	<u>weight of water, in grams</u>
$\underline{W_{ec}}$	\equiv	<u>weight of exempt compounds, in grams</u>
$\underline{V_m}$	\equiv	<u>volume of coating, in liters</u>

(+) 5.2 **VOC Content of Coatings:** ~~Volatile Organic Compounds: Measurement of volatile organic compounds in architectural coatings shall be conducted and reported in accordance with EPA Test~~ To determine the composition of a coating in order to perform the calculations in subsection 5.1, the reference method for VOC content is Method 24 of Appendix A of 40 Code of Federal Regulations (CFR) part 60, Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings, except as provided in subsections 5.3, 5.4, and 5.5. An alternative method to determine the VOC content of coatings is South Coast Air Quality Management District (SCAQMD) Method 304, incorporated by reference in subsection 5.5.10. The exempt compounds content shall be determined by SCAQMD Method 303, incorporated by reference in subsection 5.5.9. To determine the VOC content of a coating, the manufacturer may use Method 24 of Appendix A of 40 CFR part 60, or an ~~equivalent~~ alternative method ~~approved by the air pollution control officer~~ as provided in subsection 5.3, formulation data, or any other reasonable means for predicting that the coating has been formulated as intended (e.g., quality assurance checks, recordkeeping). However, if there are any inconsistencies between the results of a Method 24 test and any other means for determining VOC content, the Method 24 test results will govern, except when an alternative method is approved by the ARB and the U.S. EPA as an alternative to Method 24. The District Air Pollution Control Officer (APCO) may require the manufacturer to conduct a Method 24 analysis.

5.3 **Alternative Test Methods:** Other test methods demonstrated to provide results that are acceptable for purposes of determining compliance with subsection 5.2, after review by the staffs of the District, the ARB, and the U.S. EPA, and approved in writing by the District

APCO, may also be used.

5.4 **Methacrylate Traffic Marking Coatings:** Analysis of methacrylate multicomponent coatings used as traffic marking coatings shall be conducted according to the procedures specified in 40 CFR part 59, subpart D, appendix A, Determination of Volatile Matter Content of Methacrylate Multicomponent Coatings Used as Traffic Marking Coatings. This method is a modification of Method 24 of appendix A of 40 CFR part 60, and it has not been approved for methacrylate multicomponent coatings used for other purposes than as traffic marking coatings or for other classes of multicomponent coatings.

5.5 **Methods Incorporated by Reference:** The materials listed in this subsection are incorporated by reference in the subsections noted.

5.5.1 **Flame Spread Index:** American Society for Testing and Materials (ASTM) Designation E 84-91A, Standard Test Method for Surface Burning Characteristics of Building Material, incorporation by reference approved for section 2., Fire Retardant Coating.

5.5.2 **Gloss Determination:** ASTM Designation D 523-89, Standard Test Method for Specular Gloss, incorporation by reference approved for section 2., Flat Coating, Nonflat Coating, and Quick-Dry Enamel.

5.5.3 **Low Solids Coatings:** Bay Area Air Quality Management District (BAAQMD) Method 31, Determination of Volatile Organic Compounds in Paint Strippers, Solvent Cleaners, and Low Solids Coatings, BAAQMD Manual of Procedures, Volume III, amended 4/15/92, incorporation by reference approved for section 2., Low Solids Coating.

5.5.4 **Metal Content of Coatings:** SCAQMD Method 311-91, Determination of Percent Metal in Metallic Coatings by Spectrographic Method, incorporation by reference approved for section 2., Metallic Pigmented Coating.

5.5.5 **Acid Content of Coatings:** ASTM Designation D 1613-85, Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products, incorporation by reference approved for section 2., Pre-treatment Wash Primer.

5.5.6 **Drying Times:** ASTM Designation D 1640-83 (Reapproved 1989), Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature, incorporation by reference approved for section 2., Quick-Dry Enamel.

5.5.7 **Exempt Compounds--Siloxanes:** BAAQMD Method 43, Determination of Volatile Methylsiloxanes in Solvent-Based Coatings, Inks, and Related Materials, BAAQMD Manual of Procedures, Volume III, adopted 11/6/96, incorporation by

reference approved for section 2., Volatile Organic Compound.

- 5.5.8 **Exempt Compounds--Parachlorobenzotrifluoride (PCBTF):** BAAQMD Method 41, Determination of Volatile Organic Compounds in Solvent Based Coatings and Related Materials Containing Parachlorobenzotrifluoride, BAAQMD Manual of Procedures, Volume III, adopted 12/20/95, incorporation by reference approved for section 2., Volatile Organic Compound.
- 5.5.9 **Exempt Compounds:** SCAQMD Method 303-91, Determination of Exempt Compounds, SCAQMD "Laboratory Methods of Analysis for Enforcement Samples," incorporation by reference approved for section 2., Volatile Organic Compound and subsection 5.2.
- 5.5.10 **Alternative VOC Content of Coatings:** SCAQMD Method 304-91, Determination of Volatile Organic Compounds (VOC) in Various Materials, SCAQMD "Laboratory Methods of Analysis for Enforcement Samples," incorporation by reference approved for subsection 5.2.

Draft 5/19/99

Table of Standards 1
VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS

Limits are expressed in grams of VOC per liter^a of coating as applied,
excluding the volume of any water, exempt compounds, or colorant added to tint bases.

<u>Coating Category</u>	<u>Effective Dates</u>					
	<u>Current Limit</u>	<u>7/1/2001</u>	<u>7/1/2002</u>	<u>1/1/2005</u>	<u>7/1/2006</u>	<u>7/1/2008</u>
<u>Flat Coatings</u>	<u>250^b</u>	<u>100^c</u>				<u>50^c</u>
<u>Nonflat Coatings</u>	<u>250^b</u>		<u>150^c</u>		<u>50^c</u>	
<u>Specialty Coatings</u>						
Industrial Maintenance Anti-Graffiti Coatings	340					
<u>Bituminous Coatings</u>	<u>250^b</u>	<u>50</u>				
Bond Breakers	<u>350</u>					
Clear Wood Finishes Coatings						
• Lacquers (including lacquer sanding sealers)	<u>680</u>	<u>550</u>		<u>275^c</u>		
• Sanding Sealers (other than lacquer sanding sealers)	<u>350</u>					
• Varnishes	<u>350</u>					
Concrete Curing Compounds	<u>350</u>					
Dry Fog Coatings	<u>400</u>					
Fire-Retardant Coatings:		<u>250</u>				
• Clear	<u>650</u>					
• Pigmented	<u>350</u>					
<u>Floor Coatings</u>	<u>400^d</u>		<u>100^c</u>		<u>50^c</u>	
Form-Release Compounds	<u>250</u>					
Graphic Arts (Sign) Coatings (Sign Paints)	<u>500</u>	<u>150</u>				
High Temperature Industrial Maintenance Coatings	<u>420</u>					
Industrial Maintenance Coatings	<u>340</u>		<u>250^c</u>		<u>100^c</u>	
<u>Low Solids Coatings</u>	<u>120^d</u>	<u>120^c</u>				
Magnesite Cement Coatings	<u>450</u>					
Mastic Texture Coatings	<u>300</u>	<u>250</u>				

Draft 5/19/99

<u>Coating Category</u>	<u>Effective Dates</u>					
	<u>Current Limit</u>	<u>7/1/2001</u>	<u>7/1/2002</u>	<u>1/1/2005</u>	<u>7/1/2006</u>	<u>7/1/2008</u>
Metallic Pigmented Coatings	<u>500</u>					
Multi-Colored Coatings	<u>420</u>	<u>250</u>				
Pre-treatment Wash Primers	<u>420</u>	<u>250</u>				
Primers, Sealers, & Undercoaters	<u>350</u>		<u>200^c</u>		<u>100^c</u>	
Quick-Dry Enamels	<u>400^f</u>		<u>250^c</u>		<u>50^c</u>	
Roof Coatings	<u>250^d</u>	<u>50</u>				
Rust Preventative Coatings	<u>400^d</u>		<u>250^c</u>		<u>100^c</u>	
Shellacs: • Clear • Opaque • Pigmented	<u>730</u> <u>550</u>	<u>650</u>				
Semi-transparent Stains: • Clear and Semi-transparent Stains • Opaque Stains	<u>350</u> <u>350</u>		<u>250^c</u> <u>150^c</u>			
Swimming Pool Coatings • Repair and Maintenance Coatings	<u>340</u>					
Traffic Paints Marking Coatings • Public streets & highways • Other surfaces • Black traffic coatings	<u>150^d</u>					
Waterproofing Sealers: • Concrete • Wood	<u>400</u>	<u>400</u> <u>400</u>	<u>250^c</u>			
Wood Preservatives • Below Ground Wood Preservatives • Semitransparent and Clear Wood Preservatives • Opaque wood preservatives	<u>350</u>					

Draft 5/19/99

^a Conversion factor: one pound VOC per gallon (U.S.) = 119.82 grams VOC per liter.

^b Current SCM default limit.

^c These limits are subject to revision based on the outcome of scheduled SCAQMD technology assessments.

^d National rule limit as of September 18, 1999.

^e Units are grams of VOC per liter (pounds of VOC per gallon) of coating, including water and exempt compounds.

^f Most common current district limit.

Compliance Advisory

Reference Table for Determining Analogous National Rule^a and SCM^b Categories

<u>If your coating meets the National Rule^a definition below...</u>	<u>the following Suggested Control Measure^b category and VOC limit applies.</u>
<u>Antenna coatings</u> <u>Anti-fouling coatings</u> <u>Anti-graffiti coatings</u> <u>Chalkboard resurfacers</u> <u>Extreme high durability coatings</u> <u>Flow coatings</u> <u>Heat reactive coatings</u> <u>Impacted immersion coatings</u> <u>Nonferrous ornamental metal lacquers and surface protectants</u> <u>Nuclear coatings</u> <u>Repair and maintenance thermoplastic coatings</u> <u>Thermoplastic rubber coatings and mastics</u>	<u>Industrial maintenance coatings</u>
<u>Calcimine Recoaters</u> <u>Faux finishing/glazing</u>	<u>Flat or Nonflat coatings (depending on gloss)</u>
<u>Concrete curing and sealing compounds</u> <u>Concrete surface retarders</u>	<u>Concrete curing compounds</u>
<u>Concrete protective coatings</u>	<u>Waterproofing sealers</u>
<u>Conversion varnishes</u>	<u>Varnishes</u>
<u>Quick-dry primers, sealers, and undercoaters coatings</u> <u>Stain controllers</u> <u>Sealers (including interior clear wood sealers)</u>	<u>Primers, sealers, and undercoaters</u>
<u>Low solids stains</u> <u>Low solids wood preservatives</u>	<u>Low solids coatings</u>
<u>Zone marking coatings</u>	<u>Traffic marking coatings</u>

^a National Volatile Organic Compound Emission Standards for Architectural Coatings (40 CFR part 59, subpart D)

^b 1999 Air Resources Board Suggested Control Measure for Architectural Coatings